

Application No. 10/798,389  
Amendment dated January 31, 2006

Docket No.: 4799-0112P

In the Drawings:

Two (2) Sheets of Formal Drawings are provided as Attachments to this response.

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### REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1-15 and 30-33 are pending in the present application. Claim 1 is independent. Claims 16 and 17 have been canceled.

Reconsideration of this application, as amended, is respectfully requested.

### Premature Final Rejection

The Office mailed October 31, 2006 was made final. The Examiner stated in paragraph 9 of the Office Action, "Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Therefore, **THIS ACTION IS MADE FINAL.**"

Applicants contest the finality of the last Office Action. The scope of claims 16 and 17 was not changed in the Amendment filed August 18, 2006. Rather, the claims were simply rewritten in independent form. This fact was pointed out on pages 9 and 10 of the Reply filed August 18, 2006:

Dependent claim 16 has been rewritten in independent form without modification from its original limitations. Previously, the Examiner rejected claim 16 as being anticipated by McClanahan et al. Applicants respectfully disagree...

Dependent claim 17 has been rewritten in independent form without modification from its original limitations. Previously, the Examiner rejected claim 17 as being anticipated by McClanahan et al. Applicants respectfully disagree...

In paragraph 3 of the Office Action mailed May 19, 2006, the Examiner asserted that McClanahan et al. anticipated claims 16 and 17, i.e. showed each and every element recited claims 16 and 17. Now, the Examiner admits on page 11 and 12 of the Office Action mailed

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October 31, 2006 that "McClanahan fails to disclose the first DK in the range of 4:00-5:00 [*sic* 4.0 - 5.0] and the second DK in the range of 2.5-3.5" and "McClanahan fails to disclose the at least one crosstalk compensation element inherently include [*sic*] a plurality of capacitors places [*sic*] at different compensation stages of the PCB."

It is respectfully asserted that the Amendment filed August 18, 2006 and the IDS filed August 22, 2006 in no way necessitated the Examiner's change in position regarding the McClanahan et al. reference. The scope of claims 16 and 17 did not change, and the prior art cited on the IDS filed August 22, 2006 did not necessitate the Examiner's change in interpreting the teachings of McClanahan et al. The Examiner simply changed the grounds of rejection, and therefore the Office Action containing the new grounds of rejection cannot be made final. See MPEP 706.07(a).

It is respectfully submitted that this Amendment should be entered of right and Applicants are entitled to a new Office Action setting a new response period, instead of an Advisory Action.

### Drawings

The Examiner has objected to the drawings stating that the drawings must illustrate "the plurality of contacts, mating connector, and conductors of the mating connector."

Figures 4 and 5 have been added and are provided as attachments to this response. No new matter is involved.

Paragraph [003] of the application as filed incorporated the entire contents of U.S. Patent 5,997,358 (the '358 Patent) by reference. Fig. 6 of the '358 Patent has been added as Fig. 4 to the present application. Paragraph [007] of the application as filed stated that the present invention provided a multilayer PCB with layers having different DK materials for the related art

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crosstalk compensation devices. Added Fig. 5 shows the related art device (Fig 6 of the '358 device) with the multilayer PCB 10 with layers having different DK materials. Figures 4 and 5 illustrate nothing more than was previously incorporated by reference in the application as filed.

The drawings do not illustrate the mating connector and conductors of the mating connector. Such features are not positively recited limitations of Applicants' claims. In other words, the claims only require a modular connector with a printed circuit board wherein "contacts mounted on said PCB" are capable or adapted "for contacting conductors of a mating connector." A mating connector is not part of the claimed invention. Moreover, a mating connector is conventional in design and only cooperates with the inventive modular connector, as claimed. Conventional features normally need not be illustrated. See MPEP 608.02(g).

In view of the drawing changes and remarks above, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

#### **Rejection under 35 USC 112**

Claims 1-15 and 30-33 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement.

Applicants have added Figs. 4 and 5 in response to the Examiner's request that the drawings be supplemented by the figures of the '358 Patent, which were incorporated by reference. It is respectfully asserted that the amended application now provides the necessary descriptive support.

Accordingly reconsideration and withdrawal of this rejection are respectfully requested.

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### **Rejection under 35 USC 103**

Claims 1-17 and 30-33 stand rejected under 35 USC 103(a) as being unpatentable over McClanahan et al. in view of Celella et al. This rejection is respectfully traversed.

As an initial point, the Examiner comments on page 6 of the Office Action that the phrase "a printed circuit board for a modular connector has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation." In order to clarify the intended scope of claim 1, Applicants have inserted the modular connector into the body of claim and confirm that the modular connector is a positive limitation. Applicants confirm that claim 1 is directed to a modular connector having a PCB with certain specific structural features to benefit crosstalk compensation. The PCB includes a plurality of contacts "for" contacting conductors of a mating connector. The plurality of contacts are positively recited features and they must have the capability of, or be adapted for, contacting conductors of a mating connector. A mating connector with its associated conductors is not a positive limitation of claim 1. It is believed that these comments should clarify the scope of claim 1.

McClanahan et al. fail to show or suggest a modular connector with a PCB including a plurality of contacts mounted on said PCB adapted for contacting conductors of a mating connector. On page 5, lines 15-20 of the last Office Action, the Examiner admits that McClanahan only discloses surface mounting pads for discrete components (e.g., capacitors). However, the Examiner states that surface mounted connectors are old and well known and that the surface mounting pads could be used instead for connecting a surface mounting connector instead of discrete components.

Such a statement is completely based upon hindsight gleaned from the Applicants' application. The mere fact that surface mounted connectors exist in the prior art provides no motivation to one of ordinary skill in the art to attach one to the surface mounting pads of McClanahan et al. As appreciated by the Examiner, the surface mounting pads of McClanahan et al. are laid out in a specific manner to receive the rigid terminals of surface mount capacitors,

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resistors, etc. There is no reason to believe that such pads would be spaced relative to each other to even accept the terminals of a prior art surface mounted connector. Further, there is no reason to believe that the conductive traces that electrically connect to the pads of McClanahan et al. would permit any functionality to a surface mounted connector even if it were attachable to the pads.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

The Examiner also cites Celella as a teaching reference showing a modular connector with crosstalk compensation. Next, the Examiner states that it would have been obvious to have employed "the teachings from Celella to add a connector, such as connector 14 (a modular jack), on the surface of the PCB of McClanahan in order to connect to an external communication device, and thus extending the operating application of McClanahan's printed circuit board."

This motivation does not follow from the applied prior art. McClanahan gives no hint that external communication with his circuit board via a modular connector would be in any way desirable. The argued motivation "to extend the operating application" is bootstrap logic unsupported by the prior art. Any modification could be justified in such a manner. For

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example, would it be obvious to add an ultrasonic microphone and 1.75 GHz ray gun to the printed circuit board to "extend its operating application?"

Applicants admit that perhaps hundreds of modular connectors with crosstalk compensation are known in the prior art. Applicants also admit that a printed circuit board with different dielectric layers is known in the prior art. The issue is whether or not it would have been obvious to have employed such a PCB in combination with a modular connector. Applicants respectfully submit that such a combination fails to exist in the prior art and would not have been obvious to one having ordinary skill in the art based upon the teachings of the prior art for the same reasons as advanced in the Reply filed August 18, 2006.

McClanahan et al. fail to show or suggest a "crosstalk compensation" element provided in the first section to provide "compensating crosstalk to offset the original crosstalk." While McClanahan et al. do show a capacitor in the first section, it would be pure speculation that the capacitor constituted a crosstalk compensation element, offsetting any original crosstalk. McClanahan et al. makes no such showing or suggestion. The capacitor of McClanahan et al. could just as well be part of a power supply system to ensure constant DC voltage without voltage fluctuations. It is simply not a matter of inherency that the capacitor of McClanahan et al. is used for crosstalk compensation, as other more plausible explanations of the capacitors exist.

Moreover, it is respectfully asserted that one of ordinary skill in the art would not have been motivated, nor found it obvious, to have modified the structure illustrated by McClanahan et al. by incorporating a contacts of a modular connector, e.g. a jack or plug, as taught by Celella et al. on the PCB and using the high dielectric constant layers of McClanahan et al. as part of a crosstalk compensating element to offset original crosstalk occurring in a mating connector. The Examiner asks one of ordinary skill in the art to make too many modifications without guidance or motivation from the existing arts.

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McClanahan et al. disclose that their invention is directed to "electromagnetic interference (EMI) shielding dielectric layers." Col. 1, lines 10-11. In col. 1, lines 35-40, McClanahan et al. state:

A consideration with hybrid multilayer circuit structures is shielding and controlling electric fields which are generated internally to the hybrid multilayer circuit structure (for example by RF microstrip or stripline conductors), as well as for externally generated electric fields.

McClanahan et al. go on to state that previous attempts to control EMI have included adding an external structure (e.g. a metal housing) to cover an EMI offending, or EMI susceptible, element on a multilayer PCB. However, by McClanahan et al.'s invention, the external structures are no longer needed, rather the high dielectric constant layer can be the EMI shield. This is because the EMI shielding layer has a dielectric constant of about 100. See col. 3, line 20.

It would not have been obvious to one having ordinary skill in the art to have used the McClanahan et al. multilayer PCB of the RF EMI shielding art in combination with a modular connector as taught by Celella et al. to compensate for conductor-to-conductor crosstalk in the connector art. Applicants' invention is dealing with compensating elements, e.g. capacitors, to compensate for offending crosstalk. Such capacitors require much smaller dielectric constants, for example on the order of 4 or 5, as recited in claim 16. Such lower dielectric constants would not be seen as EMI shielding layers, which have dielectric constants on the order of 100 (as described by McClanahan et al. in col. 3, line 20). Indeed, the high dielectric constant layer of Applicants' invention has a dielectric constant (4 or 5) which is actually lower than the so-called low dielectric constant layer (7 or 8) of McClanahan et al.'s PCB, again illustrating the diverse nature of the claimed PCB (useful in forming crosstalk compensating structures) and the PCB of McClanahan et al. (useful for EMI shielding).

Dependent claims 2-15 and 30-33 should be considered allowable for the reasons argued above, as well as for the additional limitations recited therein.



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### Conclusion

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 621-7140 in the Washington, D.C. area.

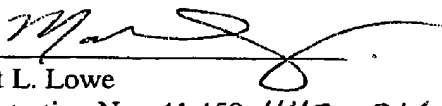
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3828 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: January 31, 2007

Respectfully submitted,

Attachments:  
Two (2) Sheets of Drawings

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